

APPENDIX E

NWCFPA OPERATIONAL PROCEDURES

Projects and Polygon Designation – Sections 1 & 2

Cooperator Relations – Sections 3 & 4

Smoke Management Implementation Plan – Section 5

NWCFPA Break Points and Preparedness Levels

OPERATIONAL PROCEDURES FOR MANAGEMENT RESPONSE WITHIN THE NORTHWEST COLORADO FIRE MANAGEMENT PROGRAM

1. PROJECT PLANS

- A. In order to implement fire use in the six primary Federal Administrative Units of the NWCFPA, and in response to the National Fire Initiative for Communities at Risk (2000), several projects have been identified to reduce hazardous fuels and enhance resources on these units. With approval of the NWCFPA Fire Management Plan these projects will be a matter of record, in a general sense. That is, these fuels, pre-suppression, and resource projects are generally identified by area and acres but not by specific projects within this Plan.

2. POLYGON IDENTIFICATION BETWEEN UNITS

- A. In the interest of keeping polygon definition and description consistent for public and Agency non-fire personnel understanding, the lettering for the polygons in NWCFPA individual FMP's are the same. That is, all A,B,C,D polygons have a consistent numbering system from A1... for each unit. Because all the units work in the same fire response area the polygon numbering system will be re-ordered for dispatching purposes. For example:
The Little Snake Field Office land base polygon numbering will begin with the letter designator for the polygon then the number dash and letter L for Little Snake. For example, the B1 polygon as described in the FMP and EA will be denoted as B1-L for dispatching and fire response. This will be the same for all the polygons regardless of letter designation.

1. The White River Field Office will use the same letter/number/-lettering system as above but with the letter W following the dash (i.e. B1-W).
2. The letter numbering system for the polygons in these two areas, as well as, all the primary Federal Administrative Units within NWCFPA, and any other Cooperators lands within the fire response zone will be reviewed for restructuring as needed. The NWCFPA Fire Management Plan will be reviewed annually and revised as needed. The letter numbering system for the polygons should be addressed through dispatch at these reviews.

3. PRE-DETERMINED RESPONSE AND MMA'S ON BOUNDARY OF DINOSAUR NATIONAL MONUMENT

- A. Standard operating procedures for Dinosaur N.M. and Northwest Colorado Fire Management Program Area (NWCFPA).
 1. Engines stationed at Dinosaur Headquarters will be available on a daily basis as part of the interagency engine mix. No prior approval from Dinosaur is required to assign the engine to an incident outside of monument lands. NWCFPA will insure Dinosaur NM is covered if resources are needed on NPS lands.
 2. Engine foremen will participate in conference calls. Update status with Craig Dispatch per protocol. Extended hours will be based on the NWCFPA and DNP step-up plans.
 3. Lookouts will notify Craig Interagency Dispatch Center (CRC) with initial smoke report, who will then dispatch the closest resource.
 4. All interagency suppression resources will respect the lands within the monument by staying on roads, utilizing minimum impact strategies, be sensitive to rare and endangered species. If in doubt, make an effort to find out before taking action.

5. Areas within the monument which are total suppression zones, i.e. Polygon "B" in BLM terms are T8N R102 W NE/SE SEC 31, T8N R102 W SEC 5, 8, NE/NE 17, T9N R102W CENTER SEC 20, T6N R101W SEC 11,12,7 NW/SW OF 18, T6N R99W SE ¼ 21, T6N, R101W SEC 15,14,21,22,23,24 SW 13, T6N R103W SE SEC 10, 11, SW SEC 12, NW/NE SEC 14, 13, 18, 19, T7N R103W NE SEC 32, NW SEC 33.
- B. For numerous years the National Park Service, including Dinosaur National Monument, has had a policy of allowing fires to burn in their historic pattern. Because of this policy some fires in the past have burned from the Monument onto Little Snake Field Office administered lands. It is expected that this will continue to happen in the future. As much as possible, this FMP has attempted to buffer the boundary with the Monument by polygons that allow for fires to be managed for multiple objectives. In the case of the Douglas Mtn., Limestone Ridge Area the Monument has proposed a series of ridgelines to use as a preplanned initial response area on fires crossing from Monument to BLM lands. This would: a) enable fires to more closely realize their historic final fire size. b) allow both Agencies to have a preset direction on a portion of their common boundaries with respect to fire response and interagency communication. c) to examine and predetermine with firefighters and fire managers the tactically superior ground to occupy for firefighter safety and resource strategy. In the case of a fire burning on BLM lands and threatening to cross onto the Monument or vice-versa, the Duty Officer or acting will notify the other agency and a determination of the appropriate response will be made jointly.

4. MOFFAT COUNTY FIRE MANAGEMENT PLANNING AND IMPLEMENTATION

- A. Moffat County has an appropriate management response FMP dealing with private lands within the county. This document has been worded to reflect the desires of some private landowners who wish to allow natural fires to be managed across federal, state, and private boundaries. **Until further notice, the Moffat County FMP will not be implemented by the Sheriff.**
 1. The County Sheriff maintains responsibility for all fires in the county not on federal lands. This position or it designee will act as Agency Administrator in relation to fires occurring on those lands.
 2. The County FMP has an Implementation Guide, which mirrors this document for fires that cross jurisdictional lines. The polygon descriptions for the lands they are responsible for are stated in the County FMP.
 3. The County Sheriffs' Office and/or County Natural Resources Department will be responsible for landowner contracts and agreements called for in the Moffat county FMP and will plan daily with NWCFPA during planning level III and higher. Private landowner contacts during fire operations will be the responsibility of the all the agencies involved in the management of the fire.
 4. Fuels project planning and implementation for protection purposes called for in the FMP of the federal agencies and the county will be a coordinated effort.

5. SMOKE MANAGEMENT IMPLEMENTATION PLAN

This section is meant to summarize the roles and responsibilities of the NWCFPA in terms of smoke management for all the fire activities overseen by the Program. Currently the stipulations and safeguards against adverse affects of smoke emissions are not compiled in one section in any one of the documents that support or certify the Program's efforts. This section will serve to compile all the different aspects covered in the Land Management Plans, Unit Fire Management Plans and Environmental Analysis's, burn plans, and all the other documents which have had direction toward smoke management in the past. This section is meant to serve as a checklist for burn bosses, incident commanders, and other fire managers for issues involving smoke impacts from prescribed burning, suppression, and wildland fire use. This section

will be updated as needed and as situations change over time. Also see Air Quality and Smoke Management section (NWCFFPA FMP, pgs. 74-78).

Prescribed Burning:

- All prescribed burns on federal lands will have an approved smoke permit issued by the Pollution Control Division of the State of Colorado. The permit is issued after the Division reviews the smoke management section of the burn plan and the application, which includes alternatives to burning and the risk of smoke intrusions, has been submitted and evaluated. Modeling to demonstrate amounts of emissions and impacts will be submitted to the Division for analysis.
- The application process for this permitting is well documented at Craig Fire Center
- All Burn bosses carrying out burn activity within the Program Area are required to notify the Division of intent to burn prior to ignition, check permit constraints to acknowledge that the conditions of the burn are congruent with the conditions of the permit, and notify the Division if unexpected results and if adverse smoke impacts are a possibility.
- The burn boss is further responsible for all notifications of adverse impacts to public or other emergency organizations as the situation requires
- The burn boss also has the responsibility to let the division know the accomplishment post burn and any lessons-learned concerning smoke impacts that occurred during the operation.
- Generally, these stipulations are within the agreement and procedures set up by the State and in place for “significant users” within the State’s Smoke Implementation Plan

Wildfires Managed for Multiple Objectives:

Roles and Responsibilities of Fire Managers to Colorado State Air Pollution Control Division (APCD) concerning Wildfires Managed for Multiple Objectives:

- The NWCFFPA is committed to notify the APCD no later than the next working day and there after the start of the next working day and daily thereafter of the occurrence of a wildland fire use to meet resource objectives that is greater than 5 acres in size. With notification the location and expected fire activity with relation to smoke impacts and sensitive receptors is to be reported. This responsibility will be with the Incident Commander (IC) or that person’s designee. In the Fire Program’s organization this responsibility lies with the Duty Officer, Fuel Specialist, ZFMO or if a management team is in place this responsibility will lie with a designated individual within their structure, usually the Fire Behavior Analyst or Long Term Analyst.
- Fire conditions must be evaluated daily and the agency administrator that reviews the Periodic Fire Assessment sheet for signature as to the continuation of management of the fire, will be briefed on the conditions with respect to the smoke permit. This information will help determine if the agency administrator wants the fire to continue as a multiple management objectives incident.

If a multiple management objectives fire is changed to a protection fire incident, the Wildland Fire Decision Support System (WFDSS) document will need to be modified by resource and fire managers along with the concurrence and signature of the agency administrator for the land on which the incident is occurring. The protection strategies and tactics used for the incident will be determined for the situation at the time and will consider smoke impacts as well as other fire objectives such as; fire fighter safety, values at risk, realistic containment barriers, cost, and resource objectives.

- Considerations and trade-offs for the management of fires for multiple objectives vs. other forms of treatments are discussed in the NWCFFPA Fire Management Plan and the parent documents to that Plan. Essentially, the C & D polygons of four of the administrative units (Little Snake FO and White River FO- BLM and Dinosaur NM-NPS) currently allow for fires to be managed for multiple objectives under closely monitored conditions. White River FO also has four B polygons and the Little Snake FO has three B polygons which allow for some managed fires to a small final fire size class. The areas outlined for multiple management objectives, which may produce smoke emissions of concern, are located in very remote, sparsely populated, and mainly large expanses of federally administered lands.

- Receptors, which could be potential sources of sensitivity to smoke emissions, are identified within the FMP, but will be re-iterated here for efficiency in management decisions. For all the areas of NWCFPA that currently allow multiple management objectives, the sensitive receptor list follows (this list is dynamic and could include others dependent on fire size, emission production, and direction of travel): In Colorado: Rangley, Meeker, Craig, Hayden, Steamboat Springs, Oak Creek, Kremmling, Fruita, Grand Junction, Rifle, Glenwood Springs. In Wyoming: Laramie and Cheyenne. In Utah: Vernal and Moab. These are all population centers that should be considered in terms of adverse smoke emissions. Three class 1 airsheds also exist within or in close proximity to some of the Program's D polygons, they are: Mt. Zirkel, and Flattops Wilderness's and Rocky Mt. Natl. Park. The impact of concern from smoke production in these areas is temporary visual impairments in federally listed class I airsheds. The goal is to manage impacts from smoke on visibility in Class I areas, as to not impair or worsen the most tainted 20th percentile days. This is achieved by not allowing more than four consecutive days of significant impacts. Transmissometer data is routinely downloaded from the previous day at the site by the Air Resource Specialists. This information can be compared too long-term averages for the site in question. As the state begins to develop Smoke Implementation Plans for Regional Haze, they will need to determine what portion of smoke from fire can be attributed to the natural condition and those which are anthropogenic or man-made. Guidance has been developed by the Western Regional Air Partnership for assigning these levels. It maybe found that all or portions of emissions from a fire occurring in a Wilderness for the purpose of maintaining the ecosystem, for example, would be considered natural. Fire use in other portions of the Fire Program area may not qualify as maintenance until a subsequent fire episode. The Fire Program only allows for natural ignitions (lightning) to be considered for multiple management objectives. The emissions from these natural events may be indexed as part of the baseline or natural haze that the division of air quality is defining, because some level of emissions always existed in nature due to wildland fire.
- Smoke risks and risks of adverse impacts from smoke emissions are difficult to describe when random events (lightning) is the source of the ignition. There are two basic types of fuels within the NWCFPA and some modeling of the emission amounts from these fuels (Westside-pinyon/juniper-sage/grass; and eastside-spruce/fir heavy dead/down) have been looked at with typical to high end prescription burning in C & D polygons. Current models are believed to conservatively express the amount of particulates emitted by smoke from wildland fires. The current health standards for air-borne particulates is: $PM_{10} = 150 \mu g/m^3$ and $PM_{2.5} = 35 \mu g/m^3$ average in a 24 hr. period.
 - A modeling effort has revealed that due to intense heat and instability the smoke emissions are lofted very high into the air and the most concentrated impacts of the emissions on the ground are very close to the edge of the fire (within ½ mile for Westside and within 2 miles for eastside fuels). Typically the multiple management objective fires that would be managed in these C & D polygons would be of much longer distances from sensitive receptors and the general wind field (SW) would transport the smoke away from those receptors. At a minimum Fire Managers will have smoke production (smoke column) visually monitored for direction and fall out to insure that no adverse affects will be observed downwind from a fire event. The recommendation is that, if through monitoring, a sensitive receptor may be adversely impacted by emissions that exceed the particulate limits stated above, a data ram particulate monitor should be stationed in that area to collect information on the levels of particulates. Public notification of potential impacts should then be instituted.
- Public notification should be through the dispatch office at Craig and the Mitigation and Education Specialist position at the Craig Interagency Dispatch Center.

All wildland fires are considered emergency activities by federal land management agencies. Because they are emergency activities the safety of individuals on the incident and the public are the paramount objective in the management of the incident.

Wildland Fire Suppression:

- **As stated in the FMP the over-all objective is for public and fire fighter safety.** The WFDSS process is the tool that is used to evaluate the incident and develops the incident objectives, requirements and a course of action/strategies to be used on the incident with many inputs and variables taken into consideration. Among those considerations is the health impact of smoke on the public and the firefighters on scene.

This document is meant to outline procedures found in various places throughout the FMP and the parent documents into a concise format for managers to review with respect to compliance to smoke management regulations. The monitoring of all fire activities is carried on through WFDSS documentation for wildland fires and environmental assessments and burn plans for prescribed burn treatments. These monitoring and predictive documentation formats are the same as contained within the Federal Wildland Fire Policy Implementation Guide.

NWCFPA Break Points and Preparedness Levels

PREPAREDNESS LEVEL RATIONALE

Preparedness Levels: Representative locations were divided into two sections, one for the west side and the other for the east side (Kremmling Field Office and Arapaho NWR) of the response area. The west side table utilizes 27 years of weather data from 1984 – 2010 for the Ladore, Dragon Road, and Pinto RAWS stations. The East side table utilizes 26 years of weather data from 1985 – 2010 for the Gunsight RAWS stations. ERC values given in the tables below are for the G fuel model for utilizing the May 1 to October 15 time period.

West Side Of Response Area

	% tile ERC range	Break Point Percentage	ERC range	NFDRS 1000 hr. FM/w associated range
PL-1	0% to 5 %	5%	0-29	18+
PL-2	5.1%-25%	25%	30-52	13 - 17
PL-3	25.1%-75%	75%	53-77	9 - 12
PL-4	75.1%-95%	95%	78-91	7 - 8
PL-5	95%+		92+	6 and below

Since the east side experiences significantly different weather than the west side, ERC and 1000 hour fuel moisture break points were calculated separately. They tend to peak out at a lower ERC values and higher 1000 hour fuel moistures.

East Side Of Response Area

	% tile ERC range	Break Point Percentage	ERC range	NFDRS 1000 hr. FM/w associated range
PL-1	0% to 10 %	5%	0 - 13	20+
PL-2	10.1%-28%	28%	14 - 31	18 – 19
PL-3	28.1%-87%	87%	32 – 68	10 – 17
PL-4	87.1%-97%	97%	69 – 86	8 – 9
PL-5	97%+		87+	7 and below

NORTHWEST COLORADO FIRE MANAGEMENT PROGRAM PREPAREDNESS LEVELS

Preparedness Levels are established by the NWCFPA Board of Directors based on current and forecast burning conditions, fire activity, resource availability, and fuel conditions. Refer to RMG for Rocky Mountain Area Interagency Preparedness Levels.

Preparedness Level Definitions:

Preparedness Level I - Little or no fire activity, preseason preparedness duties being accomplished, IA resources less than 25% committed.

Preparedness Level II - Low to moderate fire activity, interagency involvement occurring, potential for Class B or C fire exists, IA Resources 50% committed.

Preparedness Level III - Multiple fires occurring, increased potential for escaped fires Class C or larger, IA resources 75% committed.

Preparedness Level IV - Multiple A, B, C, and large fires, extended attack occurring, all IA resources committed, predicted LAL 3 or Red Flag conditions exist.

Preparedness Level V - Multiple large fires, all IA resources committed, significant LAL and Red Flag conditions.

PREPAREDNESS PLAN

PREPAREDNESS LEVEL 1

Little or no fire activity. Preseason preparedness duties being accomplished.

ERC: Below 5th percentile West and below 10th percentile East.

1000 hour: West - 18% and above. East - 20% and above.

Percentage of committed IA resources: <25%

Fire activity: Little or none

MANAGEMENT DIRECTION CONSIDERATION	RESPONSIBILITY
Pre-green stations and begin Input of daily weather from RAWs. Begin tracking weekly ERC trends when ERC hits 16. Analyze Preparedness Parameters, complete readiness reviews and refresher training.	FMO, AFMO and Dispatch.
Begin daily situation reporting to RMC as situation requires	Dispatch
Complete burn units in RX prescription	FMO
Full range of Appropriate Management and Wildland Fire Use strategies available in C and D polygons.	AFMO
Modified or Full response strategies appropriate in B polygons.	AFMO
Weekly Conference call with RMACC	Dispatch Center Manager

PREPAREDNESS LEVEL 2

Low to moderate fire activity. Interagency involvement occurring. Potential for Class B or Class C fire exists.

ERC: 5.1 to 25th percentile West and 10.1 to 28th percentile East.

1000 Hour: West – 13% to 17%, East – 18% to 19%.

Fire activity: Multiple fires size class A and B. Potential exists for Class C fires (determined locally)

Percentage of committed IA Resources: 50%

(1) Management Direction Consideration	Responsibility
Alert PAO- Coordinate news releases and fire activity information	FMO/Agency Administrator
Maintain communication with local units and sub-units concerning needs (prevention, pre-suppression, detection, and suppression).	FMO, AFMO and Dispatch
Aerial detection ordered after lightning storms when RH falls below 30% by 10:00 the following day or if lookouts report smoke the morning after lightning	AFMO
Full range of Appropriate Management Response and Wildland Fire Use strategies available in C and D Polygons.	AFMO, Zone FMOs FMO and Agency Administrators
Modified to Full strategies appropriate in B Polygons	AFMO, Zone FMOs
Sixth day staffing approved for Dispatch, Duty Officer and one Engine Crew at each station when Staffing level hits 4 and lightning or unusual human cause activity is occurring or is anticipated.	AFMO
ZFMO may assign project work with 20 minute response time. Notify Dispatch of Engine/Squad location prior to AM Briefing	ZFMO
Weather briefing broadcasted via radio.	Dispatch
Spot weather forecasts and/or updates required on all extended attack fires.	IAIC, Zone FMOs, AFMO., and Dispatch
Identify support needs for Dispatch, Management, and Suppression	FMO/Dispatch/Agency Administrator
Notify adjoining units/centers/RMACC of activity	Dispatch
AFMO/Duty Officer conducts daily briefing to Craig Center, IA resources, Agency Administrators and Cooperators. Information available direct in Craig Station at 1000 hrs., via conference call for out stations and posted on Craig Dispatch Center Web site.	AFMO
AFMO/Duty Officer and ZFMO's 20 minutes available to Center/Station or readily available by phone.	AFMO

PREPAREDNESS LEVEL 3

Multiple fires occurring. Increased potential for escaped fires Class C or larger.

ERC: 25.1 to 75th percentile West side and 28.1 to 87th percentile East Side

1000 Hour: West - 9% to 12%, East – 10% - 17%

Percentage of committed IA resources: 75%

Fire activity: Multiple A, B, and C size fires. Potential for extended attack exists.

Predicted Red Flag with Lightning can bump PL 2 up to PL 3 for the duration of that weather event.

All items in above preparedness levels could be occurring plus:

Increased check-in frequency for non-fire field personnel.	Dispatch
Full suppression strategy implemented in B polygons with ERC >50 th percentile	AFMO
Consider suspension Wildland Fire Use in C Polygons with ERC >90 th percentile	FMO, AFMO
Confine strategy restricted in C polygons when ERC is >90 th . Confine strategy as suppression oriented response still be viable option when suppression resources are committed to higher priority fires.	AFMO
ZFMO's may assign project work with 2 minute response time. Notify AFMO evening prior at Planning and Strategy meeting via conference call when activated. Otherwise notify AFMO prior to AM briefing.	ZFMO, AFMO
Consider ordering or assigning an Intelligence Officer, FBA, Plans Chief, Logistics and additional dispatcher if ERC indices trend is above 54 and increasing.	Center Manager, AFMO
Evaluate need for fire restrictions, see Individual County Plans. Coordinate and share information with County Sheriffs	FMO, Agency Administrator
Consider activation of MAC groups (area/local)	Center Manager, FMO, Agency Administrator
Office staff meetings reiterating fire policy	Agency Administrator, FMO
Availability lists completed and in RMC as requested	Dispatch
Evaluate need for step-up replacement to 75% of normal staffing	AFMO
Local resources pre-positioned on days following lightning storms in areas that commonly have the greatest potential for new fire starts.	AFMO
Consider State Office severity request for extended shifts or six day staffing during periods of potential high fire activity (Staffing Level > 3+, Haines index 6) coupled with an ignition source (LAL 2+ or high human risk)	AFMO
Initiate bump-up of with in Unit resources.	Center Manager, AFMO
Insure units are within work/rest ration guidelines.	FMO, Agency Administrator
Track availability of Resource Advisors and Assign Type III Team members from local cadre. Place in 8 hour availability status.	AFMO/Center Manager
Initiate PM Planning and Strategy Meeting during periods of active initial attack and extended attack fires.	FMO, Center Manager

Preparedness Level 4

ERC: 75.1 to 95th percentile West Side and 87.1 to 97th percentile East Side

1000 hour: West 7% – 8%, East – 8% - 9%.

Percentage of committed IA Resources: full commitment.

Fire activity: Multiple A, B, C, and large fires. Extended attack occurring.

Predicted LAL 3 or Red Flag + conditions for PL3 could bump level to PL4 for the duration of that weather event.

All items in above level could be occurring plus:

(2) Management Direction Consideration	(3) Responsibility
Memo supporting availability for fire duty of non-fire personnel.	Agency Administrator
Daily conference call between Dispatch Center and RMCC	Dispatch Center Manager
Planning and Strategy meeting conducted in evening to produce following days Action Plan (ie. Daily Briefing format) ZFMO and AFMO determine preposition points or fire assignment needs.	AFMO, FMO, Plans, Center Manager
Consider severity request for additional resources, which may include the following: One to three Dispatch detailers, including an expanded dispatch organization; one type I crew(if Craig IHC is off unit), up to 3 type 5 engines, one six person smoke chaser squad, one fire operations specialist and one type III helicopter.	FMO, local MAC
Revisit state of readiness of Initial Attack resources, bump type 3 team to 2 hour availability.	AFMO, FMO, Zone FMOs
Consider suspension of Wildland Fire Use in D Polygons, except those that demonstrate low risk of escape.	FMO, AFMO, Agency Administrator
Unit managers to evaluate and document all RX fire activity (both active and planned), to assure plans and contingencies can be accomplished given the current forces committed. Stage III implementation plans available for review.	FMO, Zone FMOs, Agency Administrator
C Polygon fires placed under full suppression Strategy.	AFMO, Dispatch, Zone FMOs
B Polygon areas consider step-up deployment of air tactical resources on initial attack.	AFMO, Dispatch, Zone FMO
Dispatch Center remains open 24 hours, as needed	AFMO and Center Manager
ATGS on order and staged in Grand Junction or Craig airport	AFMO
Approve extended shift and sixth day coverage for fire staff, dispatchers and all engine crews at staffing level 3 and when dry lightning is expected or occurring.	AFMO
Implement first level fire restrictions.	FMO, MAC Group
Implement bump-up from neighboring Units	Center Manager, AFMO

Preparedness Level 5

ERC: 95th percentile and above West and 97th percentile and above East.

1000 hour: West - 6% and below, East – 7% and below.

Percentage of committed IA Resources: fully committed

Fire activity: Multiple large fires.

Existing conditions for PL4 plus LAL 2 could bump situation to PL5 for the duration of that weather event.

All items in above preparedness levels could be occurring plus.

(4) Management Direction Consideration	Responsibility
No new prescribed fires or implementation of Wildland Fire Use without Regional MAC Group approval. Require those units with RX or Wildland Fire Use activity to report assessment of their ability to maintain fire(s) within RX prescription, stop any further ignition and suppress to a safe point where contingency resources can be released for wildfire activities.	FMO, AFMO, Regional/State Office Duty Officer, Agency Administrator
Approval for all engine crews, Dispatchers and Fire Staff for sixth day coverage and extended day work schedule for LAL 2 or potential human cause (special weekends, Holidays or events)	AFMO
Implement highest level of burn restrictions.	FMO, Local MAC Group